

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 13

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte WEI-CHUN CHU

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Appeal No. 97-1403  
Application No. 08/275,214<sup>1</sup>

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ON BRIEF

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Before URYNOWICZ, HAIRSTON and CARMICHAEL, Administrative Patent Judges.

HAIRSTON, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1 through 3 and 5 through 9.

The disclosed invention relates to a method for validating pressure test data obtained from a well that includes the step of extending a pressure measurement instrument into the well to a predetermined depth. The pressure measurement instrument has a first gauge for measuring absolute pressure, and a second gauge

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<sup>1</sup> Application for patent filed July 14, 1994.

for measuring a differential pressure over a predefined differential measurement distance.

Claim 1 is illustrative of the claimed invention, and it reads as follows:

1. A method for validating pressure test data obtained from a well, said method comprising the step of:

(a) extending a pressure measurement instrument into said well to a predetermined depth in said well, said pressure measurement instrument having a pair of gauges, a first gauge for measuring absolute pressure, and a second gauge for measuring a differential pressure over a predefined differential measurement distance;

(b) periodically sending a signal to said pressure measurement instrument to initiate a measurement of pressure inside said well;

(c) receiving a set of measurements resulting from said signal sent in step (b), said set comprising an absolute pressure measurement from said first gauge and a differential pressure measurement from said second gauge;

(d) for each of said set of measurements obtained in step (c), displaying said absolute pressure measurement on a display device;

(e) for each of said set of measurements obtained in step (c), using said differential pressure to determine a type of fluid surrounding said pressure measurement instrument;

(f) when said type of fluid obtained in step (e) differs from a type of fluid determined from an immediately previous set of measurements, indicating a fluid boundary on said display device; and

(g) validating any discontinuties [sic, discontinuities] which may occur in said absolute pressure measurements by reference to said fluid boundary.

The references relied on by the examiner are:

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Noik	3,184,965	May 25, 1965
Guimard et al. (Guimard)	4,455,875	June 26, 1984

Mattar, Critical Evaluation and Processing of Data Prior to Pressure Transient Analysis, Society of Petroleum Engineers, pages 709 through 721, 1992.

Claims 1 through 3 and 5 through 9 stand rejected under 35 U.S.C. § 103 as being unpatentable over Guimard in view of Noik and Mattar.

Reference is made to the brief, final rejection and the answer for the respective positions of the appellant and the examiner.

#### OPINION

We have carefully considered the entire record before us, and we will reverse the obviousness rejection of claims 1 through 3 and 5 through 9.

We agree with the appellant's assessment of the teachings of Guimard (Brief, pages 5 and 6), Noik (Brief, page 6), and Mattar (Brief, pages 6 through 8). The pressure measurement sonde in Guimard uses a pressure and temperature detector 18 in unison with a reference detector 20 that only measures temperature. By subtracting the temperature reading obtained by detector 20 from the pressure and temperature readings obtained by the detector 18 the pressure measurement sonde yields an absolute pressure value of the surrounding medium in the oil well. The three diaphragms

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18 through 20 in Noik form the major sensing apparatus in a differential pressure sensing device that determines the nature of fluids filling a well at various depths. Mattar teaches that rising and falling liquid levels in a shut-in well can cause errors in interpreting pressure measurements (page 711, column 2), and that at least two gauges must be used during a test for proper pressure readings (page 715, column 2).

According to the examiner (Final rejection, page 4), it would have been obvious based upon the teachings of Mattar to provide Guimard with a differential pressure gauge as taught by Noik because "as taught by Mattar, density changes caused by fluid discontinuities are one source of misdiagnosis in pressure data taken in a shut in well and to account for this source of error by employing the apparatus of Noik to determine the type of fluid surrounding the instrument and any change therein as a criteria for judging the soundness of absolute pressure measurements would assure that such fluid discontinuities are properly treated."

Although Mattar teaches that at least two gauges must be used for proper pressure measurements, this reference neither teaches nor would it have suggested to one of ordinary skill in the art the use of a differential pressure gauge in combination

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with an absolute pressure gauge. The appellant correctly concluded (Brief, page 8) that "one of ordinary skill in the art in the possession of Mattar would only be led to modify the disclosure of Guimard et al. by employing a minimum of two absolute pressure recorders in tandem and plotting the absolute pressure recorded by each device." In other words, Mattar "does not disclose utilizing pressure recorders which have both an absolute and a differential pressure gauge" (Brief, page 9). Accordingly, we agree with appellant's argument (Brief, page 10) that the examiner has resorted to "improper hindsight analysis" to demonstrate the obviousness of the claimed invention. The obviousness rejection is reversed.

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DECISION

The decision of the examiner rejecting claims 1 through 3  
and 5 through 9 under 35 U.S.C. § 103 is reversed.

REVERSED

STANLEY M. URYNOWICZ, Jr.	)	
Administrative Patent Judge	)	
	)	
	)	
	)	
	)	BOARD OF PATENT
KENNETH W. HAIRSTON	)	APPEALS
Administrative Patent Judge	)	AND
	)	INTERFERENCES
	)	
	)	
	)	
JAMES T. CARMICHAEL	)	
Administrative Patent Judge	)	

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APPLICATION NO. 08/275,214

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DECISION: REVERSED

Typed By: Jenine Gillis

**DRAFT TYPED:** 23 Dec 98

**FINAL TYPED:**